

Listing of Claims:

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended): A substrate structure, comprising:

a substrate with solder bumps on a main region and a peripheral region of a front side thereof;

a solder mask formed over the front side of the substrate; and

a metal trace structure formed within the solder mask;

the metal trace structure including a channel therein for the receipt of underfill; the metal trace structure further including a central portion with arms radiating outwardly therefrom, dividing the solder mask into separate areas.

2. (Original): The structure of claim 1, wherein the arms each include a distal end.

3. (Original): The structure of claim 1, wherein the solder mask includes a series of solder bumps.

4. (Original): The structure of claim 1, wherein the solder mask includes a series of solder bumps not over the metal trace structure.

5. (Original): The structure of claim 1, wherein the metal trace structure is a cross shape or an X-shape.

6. (Withdrawn) The structure of claim 1, wherein the metal trace structure is a cross shape.

7. (Original): The structure of claim 1, wherein the arms each include a distal end wherein the distal ends of the respective arms receive the underfill.

8. (Original): The structure of claim 1, wherein the arms each include a T-shaped distal end wherein the T-shaped distal ends of the respective arms receive the underfill.

9. (Cancelled).

10. (Currently Amended): The structure of claim 1, wherein the central portion of the metal trace structure includes a shaft disposed on a backside of the substrate, wherein the channel is in communication with the channel wherein the shaft to receives the underfill.

11. (Currently Amended): A substrate structure, comprising:

a substrate with solder bumps on a main region and a peripheral region of a front side thereof;

a solder mask formed over the front side of the substrate; and

a metal trace structure formed within the solder mask; the solder mask including a series of solder bumps not over the metal trace structure;

the metal trace structure including a channel therein for the receipt of underfill; the metal trace structure further including a central portion with arms radiating outwardly therefrom, dividing the solder mask into separate areas.

12. (Original): The structure of claim 11, wherein the arms each include a distal end.

13. (Original): The structure of claim 11, wherein the metal trace structure is a cross shape or an X-shape.

14. (Withdrawn) The structure of claim 11, wherein the metal trace structure is a cross shape.

15. (Original): The structure of claim 11, wherein the arms each include a distal end wherein the distal ends of the respective arms receive the underfill.

16. (Original): The structure of claim 11, wherein the arms each include a T-shaped distal end wherein the T-shaped distal ends of the respective arms receive the underfill.

17. (Cancelled).

18. (Currently Amended): The structure of claim 11, wherein the central portion of the metal trace structure includes a shaft disposed on a backside of the substrate, wherein the channel is in communication with the channel wherein the shaft to receives the underfill.

19-32. (Canceled)